



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,139	12/13/2001	Susan Marie Cox	ROC920010226US1	1643
31647	7590	10/17/2005		
DUGAN & DUGAN, P.C. 55 SOUTH BROADWAY TARRYTOWN, NY 10591			EXAMINER LEE, ANDREW CHUNG CHEUNG	
			ART UNIT	PAPER NUMBER
			2664	
DATE MAILED: 10/17/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/022,139

Applicant(s)

COX ET AL.

Examiner

Andrew C. Lee

Art Unit

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10/02/2002</u>  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 7, 22, 2, 9, 3, 8, 4, 12, 5, 10, 13, 18, 23, 14, 15, 19, 17, 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Collier (U.S. 6766464 B2).

Regarding claims 1, 7, 22, Collier discloses the limitation of a method of deskewing parallel data streams, comprising: receiving a plurality of data streams (Fig. 1, elements 201, 202, 211, 212; Abstract, lines 1 – 7); storing each of the received data streams in a respective buffer (column 2, lines 8 – 16); detecting synchronization signals in the data streams (column 2, lines 2 – 8); and controlling the buffers to read out the stored data streams on the basis of the detected synchronization signals (column 2, lines 16 – 22).

Regarding claims 2, 9, Collier discloses the limitation of the method of claimed wherein the plurality of data streams consists of two data streams (Fig. 1, elements 201, 202).

Regarding claims 3, 8, Collier discloses the limitation of the method of claimed wherein the detecting step includes reading synchronization signals in the data streams

stored in the buffers (column 2, lines 16 – 22).

Regarding claims 4, 12, Collier discloses the limitation of the method of claimed wherein the controlling step includes controlling respective read pointers of the buffers to simultaneously point at synchronization signals stored in the buffers (column 3, lines 39 – 45).

Regarding claims 5, 10, Collier discloses the limitation of the method of claimed wherein each of the data streams is received via a respective receiver port (column 1, line 67, column 2, lines 1 – 2).

Regarding claims 13, 18, 23, Collier discloses the limitation of an apparatus adapted to deskew parallel data streams (Fig. 1, elements 201, 202, 211, 212; Abstract, lines 1 – 7; column 1, lines 65 – 67), comprising: a first port adapted to receive a first data stream (Fig. 2, element 321; column 4, lines 9 – 15); a second port adapted to receive a second data stream (Fig. 2, element 322; column 4, lines 9 – 15); a first buffer coupled to the first port and adapted to store the received first data stream (Fig. 2, element 261; column 4, lines 20 – 24); a second buffer coupled to the second port and adapted to store the received second data stream (Fig. 2, element 262; column 4, lines 20 – 24); and a deskew circuit coupled to the first and second buffers and operative to (Fig. 2, element 280; column 3, lines 35 – 40): detect synchronization signals in the first and second data streams; and control the first and second buffers to read out the stored first and second data streams on the basis of the detected synchronization signals (column 2, lines 12 – 22; column 3, lines 37 – 45).

Regarding claims 14, Collier discloses the limitation of the apparatus of claimed

wherein the deskew circuit detects the synchronization signals by reading the synchronization signals in the first and second data streams respectively stored in the first and second buffers (Fig. 2, element 280; column 3, lines 35 – 45).

Regarding claims 15, 19, Collier discloses the limitation of the apparatus of claimed wherein the first buffer, the second buffer and the deskew circuit are implemented in a programmable logic device or an application specific integrated circuit (column 2, lines 52 – 63).

Regarding claims 17, 21, Collier discloses the limitation of the apparatus of claimed wherein the deskew circuit controls respective read pointers of the first and second buffers to simultaneously point at synchronization signals stored in the first and second buffers (column 3, lines 35 – 45).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6, 11, 16, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Collier (U.S. 6766464 B2) in view of Watanabe (U.S. 6807377 B1).

Regarding claims 6, 11, Collier discloses the limitation of a method of deskewing parallel data streams, comprising: receiving a plurality of data streams (Fig. 1, elements 201, 202, 211, 212; Abstract, lines 1 – 7); Collier does not disclose expressly the

method of claimed wherein each of the data streams is received via a respective optical fiber. Watanabe discloses the limitation of the method of claimed wherein each of the data streams is received via a respective optical fiber (Fig. 1, column 2, lines 29 – 35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Collier to include a method of claimed wherein each of the data streams is received via a respective optical fiber such as that taught by Watanabe in order to provide a parallel optical transmission/reception module realizing a larger and longer data transfer using parallel optical transmission by detecting and/or correcting skews between parallel data channels (as suggested by Watanabe, see column 1, lines 36 – 39).

Regarding claims 16, 20, Collier discloses the limitation of a method of deskewing parallel data streams, comprising: receiving a plurality of data streams (Fig. 1, elements 201, 202, 211, 212; Abstract, lines 1 – 7); Collier does not disclose expressly the apparatus of claimed wherein the first port is coupled to a first optical fiber and the second port is coupled to a second optical fiber. Watanabe discloses the limitation the apparatus of claimed wherein the first port is coupled to a first optical fiber and the second port is coupled to a second optical fiber (Fig. 3, column 5, lines 1 – 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Collier to include an apparatus of claimed wherein the first port is coupled to a first optical fiber and the second port is coupled to a second optical fiber such as that taught by Watanabe in order to provide a parallel optical transmission/reception module realizing a larger and longer data transfer using parallel

optical transmission by detecting and/or correcting skews between parallel data channels (as suggested by Watanabe, see column 1, lines 36 – 39).

### ***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Lee whose telephone number is (571) 272-3131. The examiner can normally be reached on Monday through Friday from 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (571) 272-3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ACL

Oct 12, 2005

  
**Ajit Patel**  
**Primary Examiner**